

TYARKIN, K.F.

Using plane problem formulae for interpreting magnetic anomalies
caused by geological objects with a finite strike. Dop. AN UBSR
no.10:1396-1399 '60.
(MIRA 13:11)

1. Dnepropetrovskiy gornyy institut im. Artema. Predstavлено
академиком АН USSR V.G.Bondarchukom [Bondarchuk, V.H.].
(Magnetic anomalies)

TYAPKIN, K.P.

Graphic method for computing V based on g measurement data.
Prikl. geofiz. no.16:167-174 '57. (MLRA 10:8)
(Gravity--Measurement)

S/169/62/000/006/030/093
D228/D304

AUTHOR: Tyapkin, K. F.

TITLE: Determination of the position of the lower boundary
of ferruginous quartzites from the results of magnetic
observations

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 6, 1962, 29, ab-
stract 6A 218 (Byul. nauchno-tekhn. inform. M-vo geol.
i okhrany nedor SSSR, no. 1 (29), 1961, 67-72)

TEXT: A way is suggested for estimating the lower boundary of dis-
turbing bodies by means of calculating the center of gravity of
these bodies according to the formulas resulting from A. A. Zamo-
rev's work. The method was tested in the materials of magnetic ob-
servations near the Ukrainian crystalline shield's south-east part
in order to ascertain the lower boundary of ferruginous quartzites.
Abstracter's note: Complete translation. ✓

Card 1/1

TYAPKIN, K.F.

Determining the common angle of slope or the upper edge of steeply dipping strata from the results of gravity measurements. Dop. AN URSR no.10:1310-1313 '61. (MIRA 14:11)

1. Dnepropetrovskiy gornyy institut. Predstavлено академиком
АН USSR S.I.Subbotinym.
(Geology, Structural)
(Gravity)

TYAPKIN, K.F.

Two ways of determining the magnetic direction of rocks from
the results of magnetic measurements. Razved. i prom. geofiz.
no.40:49-54 '61. (MIRA 15:7)
(Magnetic prospecting)

TYAPKIN, K.F.; GOLIK, A.I.; KHARCHENKO, S.P.

Interpretation of gravity anomalies under conditions of block
structure of the objects being studied. Geofiz. sbor. no.4:80-
100 '63.
(MIRA 16:9)

1. Dnepropetrovskiy gornyy institut imeni Artyoma.

STUPAK, N.K.; TYAPKIN, K.F.

Using geophysical prospecting methods in searching for nickel silicate
deposits in the middle Dnieper Valley. Geofiz. razved. no.3:86-92 '61.
(MIRA 17:2)

TYAPKIN, K.F.

Fault tectonics in the boundaries of the Krivoy Rog Basin. Dop.
(NTB 18:2)

AN UkrSR no.1:96-99 '65.

1. Dnepropetrovskiy gornyy institut. Predstavлено akademikom AN
UkrSSR V.G. Bondarchukom [Bondarchuk, V.H.].

TYAPKIN, K.F.

Choice of the limits of integration in reducing three-dimensional anomalies to a two-dimensional level. Dop. AN URSR no.1:37-
(MIRA 15:2)
41 '62.

1. Dnepropetrovskiy gornyy institut. Prevstavлено akademikom
AN USSR S.I.Subbotinym.
(Gravity prospecting)

TYAPKIN, Konstantin Fedorovich; BORUSHKO, T.I., red. izd-va;
IVANOVA, A.G., tekhn. red.

[Interpretation of gravity anomalies in finite geologic
structures along the strike] Interpretatsiia gravitatsionnykh
anomalii, obuslovlennykh konechnymi po prostiraniyu geologi-
cheskimi ob"ektami. Moskva, Gosgeoltekhnizdat. Pt.2. 1962. 131 p.
(MIRA 15:11)

(Gravity anomalies)

TYAPKIN, K.F.; KHARCHENKO, S.P.

Possibilities of the determination of the upper and lower boundaries
of geological formations based on the results of gravity observations
of contacts. Geofiz.razved. no.7:45-53 '62. (MIRA 15:7)
(Gravity prospecting)

TYAPKIN, K.F.

Utilizing formulae for a plane problem for interpreting gravitational anomalies due to geological objects of finite strike. Dop. AN URSR
no.8:1070-1073 '60. (MIRA 13:9)

1. Dnepropetrovskiy gornyy institut im.Artema. Predstavлено akademikom
AN USSR V.G. Bondarchukom.
(Gravity)

TYAPKIN, K.F.

Interpreting the anomalies of natural electric fields. Trudy Inst.
geol. nauk AN URSR, Ser. geofiz. no.2:98-101 '58. (MIRA 11:6)

1. Dnepropetrovskiy gornyy institut im. Artyoma, kafedra geofiziki.
(Electric fields)

TYAPKIN, K.F.

Interrelation between the derivatives of gravitational and magnetic potentials in a uniformly magnetized body in upper semospace [with summary in English]. Dop. AN URSR no.3:251-254 '58. (MIRA 11:5)

1. Dnipropetrov's'kiy gornichiy institut im. Artyoma. Predstavлено akademikom AN USSR V.G. Bondarchukom [V.H. Bondarchukom].

(Potential, Theory of)
(Magnetism, Terrestrial)

3(5) 3.8000

67905

AUTHOR:

Tyapkin, K. F.

SOV/20-129-5-12/64

TITLE:

Determination of the General Inclination Angle of Two-dimensional Geological Objects From the Results of Gravitational and Magnetic Measurements

PERIODICAL:

Doklady Akademii nauk SSSR, 1959, Vol 129, Nr 5, pp 1005-1007
(USSR)

ABSTRACT:

The expression for the angle of inclination α determined by A. P. Kazanskiy (Ref 2) applies only in the case of very high but finite values of x (the horizontal coordinate), but at $x \rightarrow \infty$ it becomes an indefinite quantity of the kind 0/0. In order to avoid this disadvantage the author suggests that the angle between the x -axis and one of the main central axes x_0 of the cross section be taken as the general angle of inclination of the two-dimensional body (Fig 1). The author then transfers the origin of the rectangular coordinates to the surface of the earth into the gravitational epicenter of the cross section of the body. For the angle of inclination

of the cross section one then finds $\operatorname{tg} 2\alpha = \frac{2M_{xz1}}{M_x - M_{z_1} - \frac{2}{cg} S}$,

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Determination of the General Inclination Angle of SOV/20-129-5-12/64
Two-dimensional Geological Objects From the Results of Gravitational and
Magnetic Measurements

where $M_{x_1 z_1}$ denotes the deviational moment of the cross section
of the body with respect to the axes x_1 and z_1 , M_x and M_{z_1} are
the equatorial moments of inertia of the body cross section
with respect to the x -axis and the z_1 -axis respectively, z_{cg} -
the depth to the center of mass of the body, S - the cross
sectional area. The author then gives formulas for determining
the numerical values of α from the results of gravitational-
and magnetic measurements, which were determined by using the
known relations between the results of these measurements and
the moments of inertia of the body. With arbitrarily oriented
magnetization of the objects, a direct determination of α is
not possible, and for this purpose Poisson's relation between
the derivatives of the magnetic and the gravitational potential
of the homogeneously magnetized two-dimensional objects is
necessary. The horizontal components of the gravitational
field strength and the magnetic field strength as well as the

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Determination of the General Inclination Angle of
Two-dimensional Geological Objects From the Results of Gravitational and
Magnetic Measurements

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vertical gradient of acceleration due to gravity, which cannot
be measured by means of instruments, may be calculated with
relative ease from the results obtained by measuring the
vertical component of the gravitational and or of the magnetic
field strength. There are 1 figure, 1 table, and 5 Soviet
references.

ASSOCIATION: Dnepropetrovskiy gornyy institut (Dnepropetrovsk Mining
Institute)

PRESENTED: April 10, 1959, by V. V. Shuleykin, Academician

SUBMITTED: April 9, 1959

Card 3/3

SOV/169-59-2-1232

Translation from: Referativnyy zhurnal, Geofizika, 1959, Nr 2, p 31 (USSR)

AUTHOR: Tyapkin, K.F.

TITLE: On the Problem of Interpreting the Anomalies of a Natural Electrical Field

PERIODICAL: Tr. In-ta geol. nauk. AS UkrSSR, Ser. geofiz., 1958, Nr 2, pp 98 - 101

ABSTRACT: The author proposes to single out the anomalous part of the field by means of the well-known dependences of the external problem of Neuman in an unbounded plane analogically to what is sometimes done in the magnetic prospecting. In connection with this the author derives for the case of plane fields the following expressions:

$$\varphi_{\theta + \frac{\pi}{2}} = -\frac{1}{\pi} \int_{-\infty}^{\infty} \varphi_{\theta} dx/x \text{ and } \varphi_{\theta} = \frac{1}{\pi} \int_{-\infty}^{\infty} \varphi_{\theta + \frac{\pi}{2}} dx/x,$$

which make it possible to obtain the electric potential of the same object with the axis of polarization turned through the angle $\frac{\pi}{2}$ (here θ is the angle between the direction of the x axis and the direction of the polarization axis, and φ is the potential). The twofold turn of the polarization vector must produce the original curve with the inverse sign and released from the

Card 1/2

On the Problem of Interpreting the Anomalies of a Natural Electrical Field
constant (or linear) component of the observed field. More complicated expressions
are derived for three-dimensional fields, which have, however, a simple solution. The
calculation is based on the assumption of uniformity and uniform polarization of the
geologic objects being the sources of the field.

SOV/169-59-2-1232
A.A. Smirnov

Card 2/2

TYAPKIN, K.F.; GOLI2DRA, G.Ya.; KRAVCHENKO, M.D., red.; LITVINENKO,
O.Kry-nauchn. red.

[Brief review of present-day methods for weakening the
regional background level of gravitation and magnetic
fields] Kratkii obzor sovremennoykh metodov oslableniya
regional'nogo fona gravitatsionnogo i magnitnogo polei.
Moskva, Gos.geologich. kom-t SSSR, 1963. 49 p.

(MIRA 17:7)

TYAPKIN, K.F.; PAVLOVSKIY, V.I.

Accurate calculation of second derivatives based on
gravimetric data. Razved. i okh. nedr 25 no.12:22-26 D
'59. (MIRA 13:6)

1. Dnepropetrovskiy gornyy institut (for Tyapkin).
2. Kurshskaya geofizicheskaya ekspeditsiya (for Pavlovskiy).
(Gravity)

TyAPKIN, K.F.

PLEASE I BOOK EXPOSITION 80/463

Geofizicheskaya razvedka, tsvet. Upravlyayushchiy sputnik-shest' robot

1960. 128 p. (Seriya: Osnova proizvodstvennoy opitnoy) 3,000 copies printed.

Sponsoring Agencies: Glazovskaya upravlyayushchaya sputnik i obnaruzhivayushchii robot traktor na zemle i v zemli

Ministervske Nauki; Upravlyayushchiy sputnik-shest' robot traktor Geofizicheskaya

Na: O.K. Gliksoni. Rezul'tativ Ed.: S.M. Yurman. Tech. Ed.: L.V. Gerasim.

PURPOSE: This book is intended for engineers and technicians working in geology and geophysics.

CONTENTS: This is a collection of 11 articles on geophysical methods and techniques of surveying mineral deposits. The authors discuss problems in processing and interpreting the results of surface and underground gravimetric surveys and seismic sounding. New types of geophysical instruments and equipment, the ATG-2 and ATG-3 multi-channel-phase seismometers, the small portable OP-55 ultrasonic seismometer, a photograph, and a soil fluid link indicators are described in detail. No personalities are mentioned. References accompany individual articles.

Vorob'ev, V.P. Principles Computation of "X" and "Y" on the Basis of a Seismic Survey. 5

Sokol'skii, B.S., and Yu.A. Smirnov. Simplest Equipment for Measuring

Amplitude-Phase Law Frequency Electromagnetic Field (MPZ-0) 6

Glibovskiy, P.G. and I.A. Kiselev. Small Field Seismometer for Measuring the Velocities of Elastic Waves 87

Glibovskiy, P.G. Design of Harmonized Models of Seismic Media 100

Pashin, A.B. Improved Circuit for Marking the Moment of Implosion by Radio 119

Dzhaparidze, M.P., V.P. Davydov, and V.I. Verbitskii. Using a Photograph to Draw Normal Curves 120

Gol'denov, I.I. Changing the Existing Layout of the ISKA-M Multimeter 125

AVAILABLE: Library of Congress

Card 3/3

24/Jan/87
12-19-60

TYPTIN, K.F.; STUPAK, V.S.

Interpretation of geological structures with anomalies caused by bedlike bodies
and contacts. Prilozhenie no. 13:15 '80. (MZh. 19:7)
(Gravity) (Penetration, Terrestrial)

3(10)

AUTHOR:

Tyapkin, K. F.

SOV/20-125-6-20/61

TITLE:

The Interpretation of Gravitational Anomalies Which Are Due to Finite Cylindrical Bodies (Interpretatsiya gravitatsionnykh anomalij, obuslovlennykh konechnymi tsilindricheskimi telami)

PERIODICAL:

Doklady Akademii nauk SSSR, 1959, Vol 125, Nr 6, pp 1249-1251
(USSR)

ABSTRACT:

Direct methods are known for the interpretation of gravitational anomalies (Refs 1,3), which are caused by two- or three-dimensional bodies. As, however, twodimensional bodies are much more easily dealt with than threedimensional ones, gravitational anomalies are, without sufficient justification, considered to be due to twodimensional bodies. Determination of the limits of applicability of such an assumption is, as a rule, rather a difficult problem, but considerable inaccuracies may be caused by arbitrarily and without criticism assuming the objects under investigation to be of infinite extent when interpreting gravitational anomalies. The author here investigates the amount of these inaccuracies and possible means of taking them into account with a view of being able to interpret them with greater reliability. For the purpose of

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The Interpretation of Gravitational Anomalies Which
Are Due to Finite Cylindrical Bodies

SOV/20-125-6-20/61

solving this problem, the gravitational effect is investigated which is caused by a finite cylindrical body with arbitrary cross section and having the length $2b$. The following then holds for the profile passing through the center of the body perpendicular to its longitudinal axis:

$$v_x = -2k\delta \iint_S \frac{(x-a)ds}{[(x-a)^2 + z^2]^{1/2} [(x-a)^2 + b^2 + z^2]}$$

$$v_z = 2k\delta \iint_S \frac{zds}{[(x-a)^2 + z^2]^{1/2} [(x-a)^2 + b^2 + z^2]}$$

Here v_x and v_z denote the derivatives of the gravitational potential; a and z - the coordinates of the points of the disturbing body; S - the surface area of the cross section of the body; k - the gravitational constant; δ - the density surplus or density deficiency; x - the current coordinate, which determines the position of the device on the "line of investigation". In order to be able to use the formulas of the plane problem for the purpose of determining the surface

Card 2/3

The Interpretation of Gravitational Anomalies Which
Are Due to Finite Cylindrical Bodies SOV/20-125-6-20/61

area of the cross section and the coordinates of the center
of mass, certain correction terms, which are defined here,
must be used; they must be calculated by employing the method
of successive approximation. There are 1 figure and 4 Soviet
references.

ASSOCIATION: Dnepropetrovskiy gornyy institut im. Artyoma (Dnepropetrovsk
Mining Institute imeni Artyom)
PRESENTED: January 19, 1959, by V. V. Shuleykin, Academician
SUBMITTED: April 4, 1959

Card 3/3

3(4, 6)

PLEASE I. BOOK INFORMATION

SOV/2256

Vsesoyuznyj nauchno-issledovatel'nyj institut geofizika i zemlevedeniya

Prilichcheskij gosudarstvennyj stat'j, vyp. 22 (Applied Geophysics: Collection of Articles, Nr. 22) Moscow, Gostoptekhnizdat, 1959.
217 p., 3,000 copies printed.

Ed.: N.K. Polikarov. Intro. Ed.: N.N. Kurnikov; Tech. Ed.: A.S. Polikarov.

PURPOSE: This collection of articles is intended for geophysicists in both industrial and research organizations.

OVERVIEW: The book contains articles on improved methods for interpreting seismic exploration data obtained by means of reflected and refracted waves. A number of articles deal with the evaluation of gravity anomalies. Individual articles discuss a method of dividing a gravitational field into its components by means of a computer, seismic radiation in boreholes, density of rocks of the Precambrian basement in the eastern part of the Russian Platform, and the use of temperature in micro-logging. There are 70 figures and 35 tables. There are 95 references by Soviet and 6 English.

TABLE OF CONTENTS:

Kol'chikov, D.B. Seismic Exploration of the Basement in the Tobolsk Region or the West Siberian Platform	3
Mazilov, Yu.V. Building Up the Directional Characteristics for a Complex Pattern Grouping [or receiver] in Seismic Research	25
Osuroshch, I.I. and D.Sh. Duboch. The Statistical Effect of Recurrent Grouping in Seismic Research	53
Trepkin, K.P. and N.K. Stepanek. Interpretation of Magnetic Contacts and Gravity Anomalies Caused by Plain-Parallel Bodies and Klubin, I.G. and N.I. Mitol'kin. Dividing a Gravitational Field into Regional and Local Components by Means of a Computer	63
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AVAILABLE: Library of Congress	

8-31-59

15

AUTHOR:

Tyapkin, K.F.

SOV-21-58-4-12/29

TITLE:

On the Problem of Classifying Anomalies of Potential Fields
(K voprosu klassifikatsii anomaliy potentsial'nykh poley)

PERIODICAL:

Dopovidi Akademii nauk Ukrains'koi RSR, 1958, Nr 4,
pp 407-410 (USSR)

ABSTRACT:

When interpreting anomalies of potential fields in magnetic and gravitational prospecting, they are often considered as induced by two-dimensional bodies. This simplification is not always warranted. The methods for classification of fields advanced thus far consisted in the investigation of individual cases of simplest bodies with regular shape. The author proposes a solution to the problem in the most general form, by making use of the known relationships between horizontal and vertical gradients of a potential field in a plane. A new method is proposed for classifying potential fields into plane and spatial ones by using known solutions of the boundary problems in the theory of potential. A field is assumed to be plane provided that the field strength components calculated by the formulas

Card 1/2

SOV-21-58-4-12/29

On the Problem of Classifying Anomalies of Potential Fields

of the plane and spatial problems are equal within accuracy limits. Otherwise, the field is to be considered as a spatial one. There are 4 references, 3 of which are Soviet and 1 American.

ASSOCIATION: Dnepropetrovskiy gornyy institut (Dnepropetrovsk Mining Institute)

PRESENTED: By Member of the AS UkrSSR, V.G. Bondarchuk

SUBMITTED: July 29, 1957

NOTE: Russian title and Russian names of individuals and institutions appearing in this article have been used in the transliteration.

- 1. Magnetic fields--Theory
- 2. Gravitational fields--Theory
- 3. Mathematics--Applications

Card 2/2

TYAPKIN, K.F.

Graphic methods of calculating Δg anomalies created by geological
objects limited in extent. Geofiz. razved. no.5:27-39 '61.
(MIRA 15:3)
(Gravity prospecting)

3.9100

82926
S/169/60/009/006/009/021
A005/A001

Translation from: Referativnyy zhurnal, Geofizika, 1960, No. 6, p. 42, # 5846

AUTHOR: Tyapkin, K. F.TITLE: Graphical Determination of the Higher Derivatives of the Gravitational and Magnetic Potentials in Case of Plane FieldsPERIODICAL: Izv. Dnepropetrovskogo gorn. in-ta, 1958, Vol. 36, pp. 57-68

TEXT: The author shows the possibility of determining graphically the third and fourth derivatives of potential functions at an arbitrary point of the upper semi-space from results of instrumental measurements of the vertical intensity components of the gravitational and magnetic fields (see: RZhGfiz, 1957, No. 6, # 5988; 1958, No. 1, # 251). The calculation and substantiation of the special networks for the case of plane fields are presented. The calculation procedure of $(\partial^3 v / \partial z^2 \partial x)$, $(\partial^3 v / \partial z^3)$ and $(\partial^4 v / \partial z^4)$ are considered in detail at points at the altitude h above the earth's surface and also $(\partial^3 v / \partial z^2 \partial x)(p)$ and $(\partial^4 v / \partial z^4)(p)$ at points at the earth's surface. The possibility, is emphasized to apply the proposed procedure of graphical

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S/169/60/000/006/009/021
A005/A001

Graphical Determination of the Higher Derivatives of the Gravitational and Magnetic Potentials in Case of Plane Fields

computation of higher derivatives of potential functions for estimating certain methods of interpreting geophysical observations, which are based on the use of these derivatives.

T. S. Lebedev

Translator's note: This is the full translation of the original Russian abstract.

Card 2/2

STUPAK, N.K. [Stupak, M.K.]; TYAPKIN, K.F.

Interpretation of some magnetic and gravitational anomalies of the Krivoy Rog type. Dop. AN URSS no.7:768-771 '58. (MIRA 11:9)

1.Dnepropetrovskiy gornyy institut im. Artyoma. Predstavil akademik AN USSR V.G. Bondarchuk [V.H. Bondarchuk].
(Prospecting--Geophysical methods)

AUTHOR: Tyapkin, K.F.

SOV/21-58-11-18/29

TITLE: Palettes for the Interpretation of Gravitational Anomalies
Caused by Finite Cylindrical Bodies (Paletki dlya inter-
pretatsii gravitatsionnykh anomaliy, obuslovlennykh konech-
nymi tsilindricheskimi telami)PERIODICAL: Dopovidi Akademii nauk Ukrains'koi RSR, 1958, Nr 11,
pp 1230-1233 (USSR)ABSTRACT: All the methods applied heretofore in practice to interpret
gravitational anomalies make use of two-dimensional pre-
sentation of the gravitating bodies which cause anomalies.
This simplification is inapplicable for the Ukrainian crystal-
line shield with anomalies of considerable intensity. The
author proposes to use special palettes by means of which
anomalous values of Δg caused by the finite dimensions of
cylindrical bodies can be computed. The application of these
palettes in practice should extend the possibilities of
gravitational surveys and correspondingly increase their
geological effectiveness. The author describes the method
of constructing these palettes.

Card 1/2 There are 2 graphs and 3 Soviet references.

SOV/21-58-11-18/28

Pallettes for the Interpretation of Gravitational Anomalies Caused by Finite Cylindrical Bodies

ASSOCIATION: Dnepropetrovskiy gornyy institut imeni Artëma (Dnepropetrovsk Mining Institute imeni Artem)

PRESENTED: By Member of the AS UkrSSR, V.G. Bondarchuk

SUBMITTED: May 9, 1958

NOTE: Russian title and Russian names of individuals and institutions appearing in this article have been used in the transliteration.

Card 2/2

TYAPKIN, K.F. [Tiapkin, K.F.]

Transparent graphs for the interpretation of gravitational anomalies due to finite cylindrical bodies. Dop.AN UBSR no.11:1230-1233 '58. (MIRA 11:12)

1. Dnepropetrovskiy gornyy institut im. Artema. Predstavil akademik AN USSR. V.G.Bondarchuk [V.H.Bondarchuk] (Gravity) (Prospecting--Geophysical methods)

AUTHORS: Stupak, N.K., and Tyapkin, K.F. 21-58-7-20/27

TITLE: Interpretation of Some Magnetic and Gravitational Anomalies of the Krivoy Rog Type (Interpretatsiya nekotorykh magnitnykh i gravitatsionnykh anomaliy krivorezhskogo tipa)

PERIODICAL: Dopovidi Akademii nauk Ukrains'koї RSR, 1958, Nr 7,
pp 768-771 (USSR)

ABSTRACT: Geophysical prospecting methods, such as gravitational, magnetic and electrical, are frequently used for the geologic prospecting of iron ore deposits in the Great Krivoy Rog basin. However, interpretation of anomalies without taking into account the direction of the magnetization vector sometimes led to considerable errors. The authors have therefore developed an analytical method of determining the depth of occurrence of the upper boundary and horizontal thickness of inclined strata by the results of magnetic measurements with an arbitrary direction of the magnetization vector of the rocks. This method is also applicable for the interpretation of gravitational anomalies. The combined use of magnetic and gravitational surveys makes it possible to determine separately the dip angle of a stratum and the direction of the magnetization vector.

Card 1/2

21-58-7-20/27

Interpretation of Some Magnetic and Gravitational Anomalies of the Krivoy Rog Type

There is 1 graph and 1 Soviet reference

ASSOCIATION: Dnepropetrovskiy gornyy institut imeni Artyoma (Dnepropetrovsk Mining Institute imeni Artem)

PRESENTED: By Member of the AS UkrSSR, V.G. Bondarchuk

SUBMITTED: February 10, 1958

NOTE: Russian title and Russian names of individuals and institutions appearing in this article have been used in the transliteration.

1. Geophysical prospecting--Magnetic factors 2. Iron ores
 --Location

Card 2/2

TYAPKIN, K. F.

37-11-3/18

AUTHOR: Stupak, N. K., Tyapkin, K. F.

TITLE: Interpretation of Local Magnetic Anomalies Caused by Tectonic Dislocations (Interpretatsiya mestnykh magnitnykh anomalii, obuslovlennykh nekotoryimi tektonicheskimi narusheniyami)

PERIODICAL: Trudy Nauchno-issledovatel'skogo instituta zemnogo magnetizma, 1957, Nr 11(21), pp. 81-86 (USSR)

ABSTRACT: Mathematical solutions for reverse problems of magnetometry for a symmetric anticline and vertical fault are presented. The following authors are mentioned: Shvank, O. A. and Lyustikh, Ye. N. There are 4 figures and 3 references, all USSR.

AVAILABLE: Library of Congress

Card 1/1

STUPAK, N.Y.; TYAPKIN, K.F.

Interpretation of local magnetic anomalies due to certain tectonic disturbances. Trudy NILZM no.11:81-86 '55. (MLRA 9:8)
(Magnetism, Terrestrial)

TYAPKIN, K.F.

Determining the position of the upper boundary of a body infinitely extending in depth from measurements of the second derivatives of the gravitational potential. Dop. AN URSR no.9:1152-1156 '61.
(MIRA 14:11)

1. Dnepropetrovskiy gornyy institut. Predstvaleno akademikom
AN USSR S.I.Subbotinym.
(Gravity)

Tyapkin, K.F.

S/169/60/000/005/001/003
A005/A001

Translation from: Referativnyy zhurnal, Geofizika, 1960, No. 5, p. 29, # 4421

AUTHOR: Tyapkin, K.F.

TITLE: On Using the Boundary-Value Problems of the Potential Theory in
Applied Geophysics

PERIODICAL: Izv. Dnepropetr. gorn. in-ta, 1958, Vol. 36, pp. 7-29

TEXT: The author proposes to use the correlations of the boundary-value problems of the potential theory for eliminating the regional background, subject to a linear variability law, with the aim of singling out in this way the local anomalies. If the regional effect is governed by a law of variation more complicated than the linear law, one does not succeed in getting rid completely of this effect in the way described. The author analyzes the possibility of applying the formulae of the two-dimensional problem of the potential theory and derives a criterion for the classification of fields into three- and two-dimensional. The interconnection between the derivatives of the gravitation and magnetic potentials is considered at an arbitrary point of the upper semi-infinite space. It is pointed out that the practical computation of all the integral expressions

Card 1/2

S/169/60/000/005/001/003
A005/A001

On Using the Boundary-Value Problems of the Potential Theory in Applied Geophysics

used in the present work may be carried out by mechanical quadratures with analytical evaluation of the residual term, which corresponds to the infinite integration limits or graphically by means of special reticulations based on the principles treated in detail in the literature. There are 21 references.

A. M. Lozinskaya

Card 2/2

TYAPKIN, K.F.

Graphic method of calculating v_x and v_{xz} based on measurements of
g to be used in the case of finite strike linear anomalies. Gnofiz.
razved. no.2:60-67 '60. (MIKA 13:12)

(Gravity prospecting)

TYAPKIN, K.F.

Accelerated computation of potential gradients at different
altitudes. Prikl.geofiz. no.12:177-181 '55. (MLRA 8:3)
(Prospecting—Geophysical methods)

LEBEDEV, A. V.; TOLCHINSKII, Ye.M.; TIAKIN, M.V.

The DIU-256/1 electronic measurement unit with a digital output.
Priborostroenie no.11:13-17 N '60. (MIRA 13:11)
(Electronic measurements)

TYAPKIN, M. V., Engineer

"Memory Device Employing Magnetic Tape in Modern Universal Electronic Computing Machines" a paper presented at the Conference on Methods of Development of Soviet Mathematical Machine-Building and Instrument-Building, 12-17 March 1956.

Translation No. 596, 8 Oct 56

Tyapkin, M. I.

FILE IN BOOK EXPLOITATION	SCN/2675
28(1) Moscow. Dom nauchno-tehnicheskoye proizvodstva. In: V. K. Dvornikov Typhalit'nal'naya tekhnika i zayav priemnye (Computation Technique and Its Application). Moscow, Gosenergoizdat, 1959. 371 p. (Series: Osnovevnoye perepraznenniye politicheskikh i nauchnykh svedenii RISZS) 5,000 copies printed.	
Ed. (title page), S. A. Labelev, Academician; Ed. (inside book); V.I. Savelyev; Tech. Ed.; G. I. Matrosov.	
PURPOSE: This collection of articles is intended for scientific engineers and technical personnel engaged in research, design and operation of digital and analog computers. It may also be used by students of universities in computers.	
Editor, V. A., Engineer. Control Devices of Universal High-speed Computers. The author presents fundamentals of digital computers, their elements and units such as arithmetic units, internal and external memory and control devices. They discuss the possibility of constructing computers using semi- conductor elements and consider the fundamentals in the theory of logical circuits. They also discuss problems of programming and explain the operation of analog computers and their elements. Brief discussion of mathematical instruments is also presented. The articles were presented at a computer seminar arranged by Naukovo dom nauchno-tekhnicheskoy Progessy. Izdat. F. K. Dvornikov (Moscow Center for Scientific and Technical Progress) Izdat. P. D. Dvornikov (1957). No personalities are mentioned. References appear at the end of some articles.	477
Molnikov, V. A., Engineer. Control Devices of Universal High-speed Computers. The author discusses the principle of operation computer control devices and describes the control panel. He also explains methods of checking computer performance. There is 1 Soviet reference.	
Bartish, L. I., Candidate of Technical Sciences. Operational Magnetic Memory. 1955	
Editor, V. A., Engineer. Operational Magnetic cores with the matrix. The author discusses the principle of using magnetic cores with the rectangular hysteretic loop for operational memory units and describes recording information. He also discusses methods of storing, reading and erasing information. The operation of the memory unit is described with a dynamic bias and with a various matrix circuits such as those with a various matrix circuit or multidiode memory units for multidigit numbers are also discussed. There are 8 references: 2 Soviet and 6 English.	123
Jant, V. M. Operational Memory Units Using Cathode-ray Tubes and Semiconductor Elements. The author discusses the operation of memory units and presents a block diagram of a parallel-connected memory circuit. He also discusses the operation of various types of tubes used in memory circuits and describes a barrier-grid storage tube and its operation. There are 2 references, both Soviet.	196
Kuznetsov, I. V. Engineer. Operational Memory Unit Using Capacitors and Semiconductor Elements. The author discusses the principle of operation of memory units using semistores and semiconductor devices and describes their matrix circuits. He discusses the requirements of operational devices and presents the results of an experiment conducted with a memory unit using a ZIF-8 type diode. He also discusses problems of increasing speed of operation of a memory unit and considers the possibility of using transistors in memory circuit elements. There are 10 references: 1 Soviet and 9 English.	
Yaplin, M. I. External Devices of Universal High-speed Computers 1959	
The author discusses input and output devices of high-speed computers and describes methods of feeding information to computers and obtaining calculated results. He also explains the operation of the external memory. There are no references.	168

86650

16,9500 (1031, 1132, 1222)
6,7800 (also 1067)

S/119/60/000/011/006/009
B012/B054

AUTHORS: Lebedev, A. V., Tolchinskiy, Ye. M., and Tyapkin, M. V.

TITLE: Electronic Measuring Device ДИУ-256/I (DIU-256/I) With
Digital Output

PERIODICAL: Priborostroyeniye, 1960, No. 11. pp. 13 - 17

TEXT: The authors describe the electronic measuring device ДИУ-256/I (DIU-256/I). It serves for the automatic measurement of 256 parameters, but it can also measure a lower number (128, 64, or 32). In such cases, each transmitter is consulted 2, 4, or 8 times, respectively, during one series of measurements. One series of measurements of the 256 parameters is carried out in 1 second. The multichannel system of the device permits the use of several channels for the connection of calibration signals. The measurement results are printed on the record sheet in the form of three-place decimals. As there is no printing device available that is capable of printing 256 three-place numbers in one second, this apparatus uses a buffer memory with a magnetic drum. Printing of the 256 measured values takes about 25 seconds. An operator controls the device from a remote-

Card 1/3

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Electronic Measuring Device ДИУ-256/І (DIU-256/I) S/119/60/000/011/006/009
With Digital Output B012/B054

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control panel. Besides the printing device, a perforator may be used for the automatic feeding of data into the digital computer. Fig.1 shows the block diagram of the device. Its main characteristics are the grouping of transmitters of the same type, as well as the two-stage commutation, i.e. each group of transmitters may have a transmitter commutator, an amplifier, and a zero organ (nul'-organ) considering the characteristics of the respective transmitter group, and may use a calibration oscillator for various transmitter groups. The transmitters of the device are divided into four groups. Each group consists of 64 transmitters. The transformation of the continuous voltages into the code is based on a comparison of the measured voltage with the gradually increasing calibration voltage generated by the calibration oscillator by means of the zero organ, as well as on the counting of impulses traveling from the control block to the calibration oscillator. Among the four valves, only one is upon at a time. The alternating opening of valves is done by the electronic commutator of the second stage which, in turn, is controlled by the impulses coming from the valves. The transformation control block synchronizes the operation of the circuit during the transformation, controls the electronic commutator of the second stage and the calibration oscillator, and ensures the

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86650

Electronic Measuring Device ДИУ-256/І (DIU-256/I) S/119/60/000/011/000/003
With Digital Output B012/B054

recording of the code on the magnetic drum. Another control block selects the code on the magnetic drum. A third block controls the printing mechanism. Fig.3 shows the functional scheme of the commutator for the transmitters. It consists of various stages, and includes a decoder for four outputs, two decoders for 16 outputs, and an output matrix. Fig.4 shows the circuit diagram of the calibration oscillator and of the zero organ. The calibration oscillator consists of a binary counter with ten classes, and a transformer of the code to a proportional voltage. An experimental checking of the calibration oscillator showed that the drift of the stabilizer currents is at most 0.03% after 5 hours. A d.c.amplifier with automatic selection of the drift (between the two measurement series) is used to amplify the signals coming from the transmitters. Fig.5 shows the circuit diagram of a d.c.amplifier of the type УНТ-1 (UPT-1). Tests of the device showed an error of $\pm 0.1\%$ in the transformation and recording at input voltages of 0-5 v. There are 6 figures and 3 Soviet references.

Card 3/3

BUTOMA, B.Ye.; SOKOLOV, P.A.; BALAYEV, D.N.; SERGEYEV, N.M.; SHUMSKIY, K.A.; TYAPKIN, M.Ya.; SMIRNOV, V.A.; PIROGOV, N.I.; FEDOROV, N.A.; GOLYASHKIN, G.S.; KUZ'MIN, A.P.; AKULINICHEV, V.P.; brigadir; GORENKO, Ye.M.; BYSTREVSKIY, L.M., inzh.; STEPANOV, P.S., brigadir; Us, I.S., brigadir-sudosborshchik, deputat Verkhovnogo Soveta SSSR; USTINOV, P.D., slesar'-sborschchik; FINOGENOVA, N.Ya., tokar'; LERNER, M.; ALEKSEYEV, R.Ye.; SIVUKHIN, K., starshiy master; OSTAF'YEV, A.I.; TROFIMOV, B.A., inzh.; KOVRYZHIN, V.F., inzh.; MOISKEYEV, A.A., prof.; GOLUBEV, N.V.; MOGILEVICH, V.I.; ANDRYUTIN, V.I.; ANDRIYEVSKIY, M.I.; MATSKEVICH, V.D., dots.

Shipbuilders prepare for the 21st Extraordinary Congress of the CPSU.
Sudostroenie 25 no.1:1-25 Ja '59. (MIRA 12:3)

1. Predsedatel' Gosudarstvennogo komiteta Soveta Ministrov SSSR po sudostroyeniyu, ministr SSSR (for Butoma).
2. Nachal'nik upravleniya sudostroitel'noy promyshlennosti Lensovmarkhoza (for Sokolov).
3. Direktor Baltiyskogo sudostroitel'nogo zavoda im. S. Ordzhonikidze (for Balayev).
4. Nachal'niki tsekhov Baltiyskogo sudostroitel'nogo zavoda im. S. Ordzhonikidze (for Sergeyev, Shumakiy).
5. Nachal'nik mekhanicheskogo tsekhya Baltiyskogo sudostroitel'nogo zavoda im. S. Ordzhonikidze (for Tyapkin). (Continued on next card)

BUTOMA, B.Ye.---(continued) Card 2.

6. Brigada kommunisticheskogo truda Baltiyskogo sudostroitel'nogo zavoda im. S. Ordzhonikidze (for Smirnov).
7. Glavnyy inzhener Admiralteyskogo sudostroitel'nogo zavoda, Leningrad (for Pirogov).
8. Glavnyy inzhener sudostroitel'nogo zavoda im. A.A. Zhdanova (for Fedorov).
9. Nachal'nik elektrodnogo tsekha Sudostroitel'nogo zavoda im. A.A. Zhdanova (for Golyashkin).
10. Nachal'nik tsekha kommunisticheskogo truda sudostroitel'nogo zavoda im. A.A. Zhdanova (for Kuz'min).
11. Malyarnyy tsakh sudostroitel'nogo zavoda im. A.A. Zhdanova (for Akulinichev).
12. Glavnyy inzhener Nikolayevskogo sudostroitel'nogo zavoda im. I.I. Lenko (for Gorbenko).
13. Nikolayevskiy sudostroitel'nyy zavod im. I.I. Nosenko (for Bystrevskiy, Us, Ustinov, Finogenova).
14. Slesarno-sborochnaya brigada Nikolayevskogo sudostroitel'nogo zavoda im. I.I. Nosenko (for Stepanov).
15. Zamestitel'nachal'nika konstruktorskogo byuro sudostroitel'nogo zavoda "Krasnoye Sormovo" (for Lerner).
16. Glavnyy konstruktor konstruktorskogo byuro sudostroitel'nogo zavoda "Krasnoye Sormovo" (for Alekseyev).
17. Sudostroitel'nyy zavod "Krasnoye Sormovo" (for Sivukhin).
18. Direktor sudostroitel'nogo zavod "Leninskaya kuznitsa" (for Ostaf'yev).
19. Sekretar' partkomata TSentral'nogo nauchno-issledovatel'skogo instituta (for Trofimov). (Continued on next card)

BUTOMA, B.Ye.--(continued) Card 3.

20. Predsedatel' Leningradskogo oblastnogo pravleniya Nauchno-tehnicheskogo otdela sudostroitel'noy promyshlennosti (for Moiseyev).
21. Glavnyye inzhenerny Konstruktorskogo byuro (for Golubev, Andryutin).
22. Glavnyy konstruktor Konstruktorskogo byuro (for Mogilevich).
23. Nachal'nik TSentral'nogo tekhniko-konstruktorskogo byuro (for Andriyevskiy).
24. Zamestitel' direktora Leningradskogo korablenstroitel'nogo instituta po uchebnoy chasti (for Matskevich).
(Shipbuilding)

AUTHOR:

Tyapkin, N.

SOV-107-58-4-28/57

TITLE:

Simple Transistor Receivers (Prostyye priyemniki na poluprovodnikovykh priborakh)

PERIODICAL:

Radio, 1958, Nr 4, pp 21-23 (USSR)

ABSTRACT:

The author discusses the different arrangements of transistors in radio receivers. In single-stage receivers the transistor is used as a detector-amplifier, a point contact diode being connected to the whole circuit by dint of its high input resistance and a junction-type triode to only part of the circuit (low input resistance) or to the whole through a transformer. High-resistance headphones could be used and the power supply would be 1.5 to 3 v, depending on the transistor used. With a detector plus one or two AF amplifier stages, loose coupling of the antenna with the detector is possible which leads to increased selectivity. Various types of interstage coupling are described and illustrated (Figure 4 a-g). Headphones or a loudspeaker could be used and an O-V-1 receiver of this type could pick up local stations on phones using the signal as a power source after rectification with a germanium diode (Figure 5). An RF stage increases the sensitivity and selectivity of the receiver

Card 1/2

Simple Transistor Receivers

SOV-107-58-4-28/57

(Figure 5). Junction-type triodes are to be preferred here since they are more stable and have less internal noise. The choice of component values, problems of coupling, automatic bias, etc. are dealt with for each type of receiver described. A 1-V-2 receiver could be built to operate headphones or loudspeaker and use a frame or strap antenna. The use of transistor lends itself to the construction of advanced regenerative and reflex straight amplification receivers, multistage superheterodynes and receivers which need no power supply.

There are 7 sets of circuit diagrams.

1. Radio receivers--Design 2. Transistors--Applications

Card 2/2

TYAPKIN, N.

Simple receivers with semiconductor devices. Radios no. 4:21-23
(MIRA 11:4)
Ap '58.
(Radio--Receivers and reception)

"APPROVED FOR RELEASE: 08/31/2001

CIA-RDP86-00513R001757710011-1

FEB 19 1982

TYAPKIN, N.

Continuous tuning by variable inductance. Radio no. 1:48-50 Ja '58.
(Television--Receivers and reception) (MIRA 11:1)

APPROVED FOR RELEASE: 08/31/2001

CIA-RDP86-00513R001757710011-1"

LITVYAKOV, Pavel Petrovich; TYAPKIN, Nikolay Kapitonovich; BUDARINA, V.,
red.; DUDNICHENKO, E., mlaedshiy red.; NUGINA, N., tekhn. red.

[Communal labor and its productivity] Obshchestvennyi trud i ego
proizvoditel'nost'. Moskva, Izd-vo sotsial'no-ekon. lit-ry, 1961.
149 p.
(Labor and laboring classes) (Labor productivity)

TYAPKIN, N.

Development along the socialist path; on the occasion of
the 38th anniversary of the Mongolian People's Republic.
Vnesh. torg. 42 no.11:31 '62. (MIRA 15:11)
(Mongolia—Economic conditions)
(Russia—Foreign Economic Relations—Mongolia}
(Mongolia—Foreign Economic Relations—Russia)

AKOPOV, R.Ya., kand. ekon. nauk, dots.; BASYUK, T.L., doktor
ekon. nauk, prof.; BIRMAN, A.M., doktor ekon. nauk, prof.;
GRIGOR'YEV, A.Ye., doktor ekon. nauk, prof.; DOKUKIN, V.I.,
prof.; IKONNIKOV, V.V., prof.; KONDRAZHEV, D.D., doktor
ekon. nauk; KURSKIY, A.D., doktor ekon. nauk; LOKSHIN, E.Yu.,
doktor ekon. nauk, prof.; MALYY, I.G., kand. ekon. nauk,
dots.; PERVUSHIN, S.P., kand. ekon. nauk; PLOTNIKOV, K.N.,
TYAPKIN, N.K., kand. ekon. nauk; FILIMONOV, N.P., kand. ekon.
nauk; SHAFIYEV, K.N., doktor ekon. nauk, prof.; BAKOVETSKIY, O.,
red.; KOKOSHKINA, I., mladshiy red.; MOSKVINA, R., tekhn. red.

[Economics; communist means of production] Politicheskaya ekono-
mika; kommunisticheskii sposob proizvodstva. Uchebnik 2., pe-
rer. i dop. izd. Moskva, Sotsekgiz, 1963. 599 p.

(MIRA 16:5)

1. Chlen-korrespondent Akademii nauk SSSR (for Plotnikov).
(Economics) (Communism)

TYAPKIN, N.K., kapitan, redaktor; YEREMEYeva, Ye. N. tekhnicheskiy redaktor.

[Superior and subordinates] Nachal'nik i podchinennye. Moskva.
Voen. izd-vo Narodnogo komissariata oborony, 1945. 29 p. (MLRA 8:8)
(Military discipline)

Tyapkin, N.K.

Obshchestvennyy Trud and Yego Proizvoditel 'Nost',
[BY] P.P. Litvyakov and Litvyakov, Pavel Petrovich. Moskva.

Sotsekgiz, 1961.

149 p. Tables.

Bibliographical footnotes.

USSR / Human and Animal Morphology. Circulatory System. S-2

Abs Jour: Ref Zhur-Biol., No 14, 1958, 64827.

Author : Tyapkin, N. S.

Inst : Tomsk University.

Title : New Methods of Myocardial Damage in Animals in
a Chronic Experiment.

Orig Pub: Tr. Tomskogo un-ta, 1955, 131, 319-322.

Abstract: No abstract.

Card 1/1

U.S.S.R. / Human and Animal Physiology. General Prob- T
lems.

Abs Jour: Ref Zhur-Biol., No 5, 1958, 21824.

Author : V. A. Pegel, N. S. Tyapkin.
Inst : Tomsk Institute.

Title : Correlation of Temperatures of Internal Organs
Following Partial and Total Removal of the Cere-
bral Hemispheres in Animals.

Orig Pub: Tr. Tomskogo In-ta, 1956, 143, 51-62.

Abstract: The correlation of temperatures of the kidneys,
liver and spleen was studied in rabbits with the
aid of implanted constant copper thermocouples.
The correlation of temperatures of the organs
in decorticated animals was disturbed to a les-
ser degree than in the intact animals, following
introduction in the blood of various doses of

1

Card 1/2

APPROVED FOR RELEASE: 08/31/2001

CIA-RDP86-00513R001757710011

U.S.S.R. / Human and Animal Physiology. General Prob- T
lems.

Abs Jour: Ref Zhur-Biol., No 5, 1958, 21824.

Abstract: urea, urethane and under conditions of hypo-

thermy. However, following the introduction of
nickel sulfate, the divergence of temperatures,
seemed to be somewhat greater in the operated
rabbits.

General changes of temperatures of organs in
operated animals were observed with smaller
doses of tested materials. It follows that the
cerebral cortex is more sensitive to balance dis-
turbances in the organism than the sub-cortical
ganglia. Removal of the cortex, generally in-
hibiting subcortical centers, contributes to
increased sensitivity of organs and their fune-
tional coordination.

Card 2/2

USSR/Human and Animal Physiology (Normal and Pathological).
Body Temperature Regulation.

Abs Jour: Ref Zhur-Biol., No 17, 1958, 79353.

Author : Tyapkin, N.S.

Inst :

Title : Relationship of the Temperatures of Internal Organs
of Animals Under the Influence of Several Factors.

Orig Pub: Tr. Tonskogo un-ta, 1956, 143, 41-50.

Abstract: The temperature of the liver, kidneys and spleen
in rabbits was determined by means of thermocouples
which were inserted and allowed to heal over. The
almost parallel course of temperature changes of
the organs in normal conditions was somewhat im-
paired under different influences. With the intro-
duction of different doses of urea and urethane,

Card : 1/2

USSR/Human and Animal Physiology. (Normal and Pathological).
Body Temperature Regulation.

Abs Jour: Ref Zhur-Biol., No 17, 1958, 79353.

introduced in the blood through a marginal vein of the ear in a quantity of 5-7 ml, as well as during hypothermia, the deviation of the temperature curves was small (a physiological solution served as the control); during hyperthermia, the deviation increased, and, with the introduction in the organism of NiSO_4 (toxic for parenchymatous organs) this increase was expressed maximally. Thus, the stronger the influence was on the organism, the more significant was the deviation.

Card : 2/2

TYAPKIN, S.

Settlement of individual homes. Sov. profsoiuzy 7 no. 7:57-58
Jl '58. (MIRA 11:8)

1. Predsedatel' zavkoma Sinarskogo trubnogo zavoda g. Kamensk-Ural'skiy.
(Kamensk-Ural'skiy--Housing)

TYAPKIN, Yu. D.

USSR/Metallurgy - Iron Nickel Alloys, 1 Nov 53
Martensite Transformation

"The Phenomenon of Stabilization in Reverse Marten-
site Transformation," Ya. M. Golovchiner, Yu. D.

Tyapkin

DAN SSSR, Vol 93, No 1, pp 39-42

Investigates effect of reverse alpha-to-gamma marten-
site transformation on capability of gamma-phase
thus-formed to subsequent direct martensite trans-
formation, describing phenomenon of gamma-phase
stabilization detected during investigation. Expts

275T49

were conducted with two Fe-Ni alloys: N27 with 27%
Ni, and N27T containing 27% Ni and 1.5% Ti. Studies
also combined effect of plastic deformation and re-
verse martensite transformation on gamma-phase in
alloys under investigation. Presented by Acad I. P.
Bardin 4 Sep 53

GOLCVCHINER, Ya.M.; TYAPKIN, Yu.D.

Stabilization phenomena during reversible martensite transformation.
Probl. metalloved. i fiz. met. no.4:209-218 '55. (MIRA 11:4)
(Iron-nickel alloys--Metallography)

TYAPKIN, N. K.

Several problems in the theory of land rent. Vop.ekon.
no.7:98-102 J1 '60. (MIRA 13:5)
(Rent(Economic theory))

TYAPKIN, Nikoley Kapitonovich, kand.ekonom.nauk; LEONT'YEV, L.A., red.;
MYASOYEDOV, B., red.; YAKOVLEVA, Ye., tekhn.red.

[Planning is the law of life of a socialist enterprise] Plan -
zakon zhizni sotsialisticheskogo predpriatiia. Pod obshchei
red. L.A.Leont'eva. Moskva, Mosk.rabochii, 1960. 35 p.
(MIRA 13:8)

(Russia--Economic policy)

"APPROVED FOR RELEASE: 08/31/2001

CIA-RDP86-00513R001757710011-1

APPROVED FOR RELEASE: 08/31/2001

CIA-RDP86-00513R001757710011-1"

Tyapkin, Yu.D.

USSR/Magnetism - Ferromagnetism

F-4

Abs Jour : Referat Zhur - Fizika, No 5, 1957, 12008
Author : Tyapkin, Yu.D.
Inst : Central Scientific Research for Ferrous Metallurgy, Moscow
Title : Use of the Magnetic Method for the Study of Phase Transformation in Alloys Having Two Ferromagnetic Phases.
Orig Pub : Zavod. laboratoriya, 1956, 22, No 3, 309-311
Abstract : For an anisometric study of the martensitic $\gamma \rightarrow \alpha$ transformation in alloys N27 (27% nickel, remainder iron) and N27D (27% nickel, 1.5% titanium, remainder iron), a method is developed to eliminate from the total magnetic saturation of the specimen that fraction of saturation, which is introduced by the second ferromagnetic phase. The above alloys are of the two-phase type, with the Curie point of the γ phase being located approximately 10°, while the

Card 1/2

USSR/Magnetism - Ferromagnetism

F-4

Abs Jour : Ref Zhur - Fizika, No 5, 1957, 12008

temperature of the start of the $\gamma \rightarrow \alpha$ martensitic transformation (the α phase is ferromagnetic) lies below 0°. A special treatment made it possible to obtain two specimens of the studied alloy with different amounts of α phase each amount being constant in the investigated interval of temperatures (100°, -196°). With the aid of these specimens, the linear nomograms required for the elimination of the effect of the ferromagnetism of a γ phase, were plotted for each alloy. The curves obtained by modification make it possible to determine readily the temperature of the start of the $\gamma \rightarrow \alpha$ transformation and judge correctly the course of the transformations upon change in temperature.

Card 2/2

DAVIDENKOV, S.N., prof.; GAKKEL', L.B., prof.; KUPALOV, P.S., prof.;
GALKIN, V.S., prof. [deceased]; POPOV, Ye.A., prof.; USPENSKIY,
Ye.A., doktor med.nauk; TIAPUGIN, N.P., kand.med.nauk; LEV,
A.A., kand.med.nauk; FILIMONOV, N.I., zamestitel' otv.red.;
BOGGLEPOV, N.K., prof., red.; MIKHEYEV, V.V., prof., red.;
RAZDOL'SKIY, I.Ya., red.; FUTER, D.S., prof., red.; ROGOVER,
A.B., kand.med.nauk, red.; RULEVA, M.S., tekhn.red.

[Multivolume manual on neurology] Mnogotomnoe rukovodstvo po
nevrologii. Leningrad, Gos.izd-vo med.lit-ry, Leningr. otd-nie.
Vol.6. [Neuroses, epilepsy, and narcolepsy] Nevrozy, epilepsiia
i narkolepsiia. Red.toma S.N.Davidenkov. 1960. 532 p.
(MIRA 13:8)

1. Deystvitel'nyye chleny AMN SSSR (for Davidenkov, Kupalov,
Popov). 2. Chleny-korrespondenty AMN SSSR (for Filimonov, Raz-
dol'skiy).

(NEUROLOGY)

TJAPKIN, Ju. D.

SUBJECT USSR / PHYSICS CARD 1 / 2 PA - 1366
AUTHOR BAGARJACKIJ, JU.A., TJAPKIN, JU.D.
TITLE The Peculiarities of the Structure of Ni-Al-Alloys on the Occasion
of the Separation Process of an Oversaturated Solid Solution of
Aluminium in Nickel.
PERIODICAL Dokl.Akad.Nauk, 108, fasc. 3, 451-454 (1956)
Issued: 8 / 1956 reviewed: 10 / 1956

The authors studied the aging of nickel-aluminium alloys containing a high percentage of nickel with the help of X-rays. On the occasion of the hardening of a quenched solution with 17 atom percent Al (= 8,5 weight percent) oscillations of the monocrystals of the satellite reflections occur besides the reflections of the primary solid solution at a certain stage of separation of the solid solution which is oversaturated after quenching. The change of the distance between the main reflections and additional reflections on the occasion of the transition from one radiation to another corresponds to the modulation of the lattice parameter of the type [001] in the crystal of the solid solution. The here observed case is only distinguished by great similarity of satellite reflection to the main reflection, which is the reason why the satellites can be observed only at large angles of reflection of the X-rays. No essential change of the distance between the satellites and the main reflections and thus also no change of the time of modulation with the time of hardening was found.

The modulation scheme resulting from the experiment is a go-between between the schemes of BRADLEY on the one hand and those of DANIEL and LIPSON on the other.

Dokl.Akad.Nauk, 108, fasc. 3, 451-454 (1956) CARD 2 / 2

PA - 1366

The lattice parameter 3.556 kX found relates to the intermediate layers with increased aluminium concentration. However, the layers with reduced aluminium concentration have no distinctly marked lattice parameter along the direction of modulation. The layers which alternatingly contain a high and a low percentage of aluminium are probably of equal thickness. Additional information concerning the structure of nickel-aluminium alloys were obtained by observations concerning the change of superstructural reflections which characterize the compound Ni₃Al. In the case of alloys with 17 atom percent a very approximated estimate furnishes amounts of from 200 to 400 kX for the average measurements of domains with remote order. The amount of the lattice parameter within these domains is somewhat larger than the average amount of the parameter for the entire crystal. In the following stage of separation the washed-out state and the position of superstructural reflection change only little. In the course of further hardening superstructural reflections continue to become more distinct. This points to coagulation processes with increasing concentration of Al. If part of the aluminium in the Ni-Al-alloy is replaced by titanium, the character of the transformations does not change essentially. Also in the case of the triple alloy Ni-Al-Ti superstructural reflections occur after hardening which are indicative of the existence of domains with a remote order.

INSTITUTION: Institute for Metallurgy and Physics of Metals of the Central Scientific Institute of Research for Iron Metallurgy.

TYAPKIN, YU. D. and BAGARATSKIY, YU. A.

Central Research Institute of Ferrous Metallurgy, Moscow- "The Mechanism of the Structure Transformations in the Nickel Base Age-Hardening Alloys" (Section 13-4)-a paper submitted at General Assembly and International Congress of Crystallography, 10-19 Jul 57, Montreal, Canada.

C-3,800,189

Tyapk(h,y..)

AUTHOR: Bagaryatskiy, Yu.A. and Tyapkin, Yu.D. 70-3-16/20

TITLE: The mechanism of the structure transformations in the age-hardening alloys on the nickel base. (Mekhanizm struktur-nykh prevrashcheniy v stareyushchikh splavakh na osnove nikelya)

PERIODICAL: "Kristallografiya" (Crystallography), 1957,
Vol.2, No.3, pp. 419 - 423 (U.S.S.R.)

ABSTRACT: Binary, ternary and quaternary nickel-base alloys were investigated (see Table 1, p. 419). In all the hardenable alloys, except T - 1, T - 2, T - 3 and XT, the equilibrium precipitate (γ') possesses a close-packed ordered f.c.c. lattice with parameters little greater than those for nickel-base solid solutions. The alloys T-1, T - 2, T - 3 and XT have equilibrium precipitate (η) with composition Ni_3Ti and a hexagonal close packed four-layer lattice. Alterations of lattice parameter of solid solutions and precipitates, presence or absence of superlattice reflexions and character of X-ray reflexions on the oscillating diagrams obtained by soft (Cu Ka, Fe Ka) and hard (Mo Ka) radiations were studied. Non-hardenable alloys (solid solutions) A - 0 and T - 0 and some of hardenable alloys were also studied by X-ray diffuse scattering. Single crystals of alloys were cut from large

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70-3-16/20

The mechanism of the structure transformations in the age-hardening alloys on the nickel base. (Cont.)

ingots, which were first homogenized at 1 200 C for about 100 hours.

On the oscillating diagrams of all the hardenable alloys with equilibrium precipitates γ' and η (except the alloy XTA - 1, quenched from 1 250 C) superlattice reflexions were found typical of the Ni_3Al lattice. They were diffuse at large angles θ ; by their diffuseness one can estimate the dimensions of superlattice regions in the crystals (see Table 1). The superlattice parameter for alloys A - 2 and A - 1 (3.553 and 3.547 kX.) are more than those measured by non-superlattice reflexions (3.545 and 3.541 kX.); the former, within the accuracy of measurement, is equal to the lattice parameter of Ni_3Al (3.556 kX.). Analogous results were found for alloys with equilibrium precipitate η : the super lattice parameter for alloy T - 2 was 3.577 kX. but the non-superlattice parameter was 3.570 kX. This all implies that sub-microscopic regions in the crystals of super-saturated solid solution which possess the superstructure are enriched by Al and Ti nearly up to a composition $(Ni,Cr)_3(Ti,Al)$. Dependence of Al(Ti)-rich region dimensions upon the quenching temperature (see Table 1) suggests that inhomogeneity of location of

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70-3-16/20

The mechanism of the structure transformations in the age-hardening alloys on the nickel base. (Cont.)

solute atoms occurs also in single-phase (at high temperature) solid solutions. In the alloy XTA-1 quenched from 1 250 C we have found only local order by diffuse scattering; this was found also for equilibrium solid solutions A - O and T - O.

After short ageing at 500 - 700 C (and sometimes after non-drastic quenching) satellite reflexions appear on the oscillating diagrams obtained with soft radiation for most of the alloys. This gives evidence about the dispersion of Al(Ti)-rich and Al(Ti)-poor regions in the crystals of alloys (modulated structure). In the alloy XT the picture is slightly different, but the oscillating diagrams obtained by hard radiation (Yu.A. Bagaryatskiy and Yu.D. Tyapkin, Dokl.Ak.Nauk, USSR, (1956) 118, 451) suggest that in both cases in the crystals there are regions of both types (rich and poor in Al and Ti atoms). In addition, in the quenched alloy XT there are regions with mean (initial) lattice parameter.

In the alloys with equilibrium precipitate γ' progressive ageing causes growth of Ti- and Al-rich regions with superstructure. The maximum hardness is obtained when the dimensions of these regions are about 200 - 400 Å. In the crystals of alloys with equilibrium precipitate η (the T and XT alloys)

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The mechanism of the structure transformations in the age-hardening alloys on the nickel base. (Cont.)

after ageing at 800 - 850 C for some hours submicroscopical regions with a h.c.p. structure appear; they arise from the Ti-rich regions. Simultaneously, the regions with mean lattice parameter (in alloy XT) are dissolved into Ti-rich and Ti-poor regions.

There are 10 figures, 2 tables and 16 references, 4 of which are Slavic.

ASSOCIATION: Institute of Metallurgy and Metal Physics TsNIIChERMET
(Institut Metalloveniya i Fiziki Metallov TsNIIChERMET)

SUBMITTED: February 22, 1957.

AVAILABLE: Library of Congress

Card 4/4

TYAPKIN, Yu.D.; GAVRILOVA, A.V.

Anomalous X-ray scattering by microscopic single crystals in
alloys. Initial stage of aging of the alloys nickel-beryllium
and copper-beryllium. Kristallografiia 9 no.2:213-218 Mr-Ap'64.

(MIRA 17:5)

1. TSentral'nyy nauchno-issledovatel'skiy institut chernoy
metallurgii imeni I.P. Bardina.

Tyapkin, Yu. D.

AUTHORS: Bagaryatskiy, Yu. A., Tyapkin, Yu. D.

20-6-16/48

TITLE: On the Mutual Relation of the Process of Diffusion and of Lattice Rebuilding During the Decomposition of the Supersaturated Solid Solutions in Alloys. (O vzaimo-otnoshenii protsessov diffusii i perestroyki reshetki pri raspade peresyshchennykh tverdykh rastvorov v splavakh)

PERIODICAL: Doklady AN SSSR, 1957, Vol. 115, Nr 6, pp. 1111-1114 (USSR)

ABSTRACT: The results of the investigation of the decomposition of the supersaturated solid solutions of titanium in nickel and nickel-chromium obtained by the authors and mentioned in the present paper according to the opinion of the authors make it possible clearly to confirm the modification of the composition due to diffusion. The nickel-titanium alloys T-2 with 11,8 % Ti and T-3 with 13 % Ti as well as the trinary alloy nickel-chromium-titanium (KhT) with 15,2 % Cr and 7,1 % Ti were investigated. The equilibrium phase of the segregations in these alloys at 700 - 900° and below is the so-called η -phase (ni_3Ti) with four-ply close-packed hexagonal structure. At a heating temperature below the quenching (1250°) the second phase in the solid solution dissolves on nickel basis (γ -phase). The radiographic investigations of the monocrystals

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On the Mutual Relation of the Process of Diffusion and of Lattice Rebuilding During the Decomposition of the Supersaturated Solid Solutions in Alloys. 20-6-16/48

of the quenched alloys confirm that they consist of one phase. If the alloys are exposed to temperatures of 700 - 900° for a long period (tempered), the alloys become biphasic. ($\gamma + \eta$). The mutual orientation of the lattices of the γ -phase and of the η -phase is characteristic of the conversions of the cubical limit-centered lattice into a close-packed hexagonal lattice which was ascertained radiographically by the authors. In the radiographs of the quenched alloys there are no reflections in the case of the η -phase, but hyperstructure reflections can clearly be observed. The composition of the areas concentrated by titanium already approximates Ni_3Ti . The here discussed investigations give evidence of the following facts: The conversion of the monophase alloy ($Ni - Ti$ or $Ni-Cr-Ti$) into the biphasic system takes place in two stages. First, during quenching, due to the diffusion a dislocation of the titanium atoms in the lattice of the original monocrystal of the alloy takes place. Only in the second stage of the maturing do small domains with a different structure of the crystals occur ($\gamma - Ni_3Ti$). This

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On the Mutual Relation of the Process of Diffusion and of Lattice Rebuilding During
the Decomposition of the Supersaturated Solid Solutions in Alloys.

succession of diffusion and rebuilding process ought to be true also for the
eutectoid decomposition of a-supersaturated solid solution. There are 4
figures, 1 table, 18 references, 13 of which are Slavic.

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Scientific Research Institute for Ferrous Metallurgy (Institut
metallovedeniya i fiziki metallov Tsentral'nogo nauchno-
issledovatel'skogo instituta chernoy metallurgii)

PRESENTED: By Kurdyumov, S. G., Academician, March 4, 1957

SUBMITTED: March 2, 1957

AVAILABLE: Library of Congress

Card 3/3

AUTHORS: Bagaryatskiy, Yu. A., Tyapkin, Yu. D. 78-3-4-17/38

TITLE: Radiographic Determination of the Limit of Solubility of Coarse-Grained Samples by the Vibration Method (Rentgenograficheskoye opredeleniye granits rastvorimosti na krupnozernistykh obraztsakh metodom kolebaniy)

PERIODICAL: Zhurnal Neorganicheskoy Khimii, 1958, Vol. 3, Nr 4, pp. 934-935 (USSR)

ABSTRACT: The limits of solubility of coarse-grained samples were determined according to the vibration method published in "Zavodskaya laboratoriya" n.6, 1958. For the determination of crystallographic orientation of the grains in the sections Laue photographs (Laueye) were used. The symmetric Laue photograph at the same time serves for the determination of the effective distance from the sample to the film. By these methods the limits of solubility of titanium in nickel at 1100° and 800°C were determined. The following values were found: 11,8 \pm 0,3 at%Ti(9,8 \pm 0,3 % by weight Ti) and 9,6 \pm 0,3 at%Ti(8,1 \pm 0,3 % by weight Ti).
Card 1/2 Also the parameters of the η -phase Ni₃Ti separated at 800°C

Radiographic Determination of the Limit of Solubility of Coarse-Grained Samples by the Vibration Method 78-3-4-17/38

were determined. Ni₃Ti has an hexagonal lattice with $a = 2,53_{7 \pm 5}$, $c = 8,30_{6 \pm 8}$ and $c/a = 3, 273 = 2, 1,636$. The limit of solubility of aluminum in nickel at 1150° C was determined: $16,5_{\pm 0,3}$ at%Al ($8,3_{\pm 0,2}$ weight % Al). The limit of solubility can also be determined directly in the treated samples at higher temperatures. There are 1 figure and 3 references.

ASSOCIATION: Institut metallovedeniya i fiziki metallov Tsentral'nogo nauchno-issledovatel'skogo instituta chernoy metallurgii (Institute for Metallurgy and Physics of Metals of the Central Scientific Research Institute for Ferrous Metallurgy)

SUBMITTED: June 25, 1957

Card 2/2

SOV/137-58-9-19853

Translation from: Reserativnyy zhurnal Metallurgiya, 1958, Nr 9, p 250(USSR)

AUTHORS: Bagaryatskiy, Yu.A., Tyapkin, Yu.D.

TITLE: X-ray Study of the Process of Aging of Nickel-base Alloys
(Rentgenograficheskoye izuchenie stareniya splavov na
nikelevoy osnove)

PERIODICAL: Sb. tr. In-t metalloved. i fiz. metallov Tsentr. n.-i. in-ta
chernoy metallurgii, 1958, Vol 5, pp 241-265

ABSTRACT: Alloys of the following systems were investigated: Ni-Al,
Ni-Ti, Ni-Cr-Al, Ni-Cr-Ti, Ni-Al-Mo, and Ni-Cr-Al-Mo. An
X-ray diffraction study was carried out with the aid of X-ray
photographs taken of monocrystals by the method of vibrations.
It is demonstrated that the process of decomposition of a super-
saturated solid solution begins prior to the tempering of a
quenched alloy. The quenched state is already an initial stage
in the process of transformation of a single-phase solid solu-
tion into a two-phase system. In the case of a solid solution
which has become supersaturated after quenching, the distri-
bution of atoms of Al or Ti in the lattice of the solvent is not
uniform. Regions in which the formation of a superlattice of

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SOV/137-58-9-19853

X-ray Study of the Process of Aging of Nickel-base Alloys

the Cu₃Au type is possible vary in size in various alloys from 50 to 1000 angstrom, depending on the composition of the alloy, the temperature, and the intensity of quenching. The formation of areas with ordered atoms in a supersaturated solid solution takes place not only in alloys containing Al, where the equilibrium γ phase (Ni₃Al) is ordered and possesses the same type of lattice as the solid solution, but also in Ti alloys in which the equilibrium phase possesses a different type of lattice. Introduction of Cr affects the kinetics of aging but does not influence the mechanism of the transformations. Two stages of aging exist in alloys containing Ti: 1) Diffusional distribution of Ti atoms (and Cr atoms in ternary alloys) and the formation, within the crystals of the solid solution undergoing aging, of submicroregions which are either enriched with Ti or depleted therein; 2) modification of the cubic lattice (in regions the composition of which is already prepared) into a hexagonal configuration characteristic of the equilibrium precipitation phase followed by growth and segregation of particles of the new phase.

1. Nickel alloys--Aging 2. Nickel alloys--X-ray analysis
3. Single crystals--X-ray analysis

L.M.

Card 2/2

BAGARYATSKIY, Yu.A.; TYAPKIN, Yu.D.

X-ray determination of lattice periods of cubic crystals of grain samples without the use of a standard. Zav. lab. 24 no.5:554-561 '58.
(MIRA 11:6)

1. Tsentral'nyy nauchno-issledovatel'skiy institut chernykh metalov.
(X-ray crystallography)

18(7)

AUTHORS: Bogaryatskiy, Yu. A., Tyapkin, Yu. D. SCV/2o-122-5-16/56

TITLE: On the Atomic Structure of the Solid Solutions of Chromium in Nickel (Ob atomnom stroyenii tverdykh rastvorov khroma v nikele)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 122, Nr 5, pp 806 - 809 (USSR)

ABSTRACT: Several earlier papers dealing with this subject are discussed first. By using the method of the diffuse scattering of X-rays the authors investigated alloys of 28 and 35 gram-atomic percentage chromium. These alloys were investigated in a quenched and in a tempered state (at 450°, for 100 hours). The X-ray pictures of the diffuse scattering were taken by means of monochromatized molybdenum-K radiation for 2 orientations of the monocrystals α of the alloys. In the X-ray pictures of the 2 alloys tempered at 450° for 100 hours, additional weak maxima were observed (besides the thermal maxima which correspond to the main reflections on the cubic

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On the Atomic Structure of the Solid Solutions of
Chromium in Nickel

507/20-122-5-16/56

surface-centered lattice of the solid solution).
The position of these maxima corresponds approximately
to the position of the nodes of the rhombic lattice
of Ni_2Cr in the case of the following relation
between the orientation of Ni_2Cr and the solid
solution: $[001]_{\text{rhombic}} \parallel [001]_{\text{cubic}}$; $[100]_{\text{rhombic}} \parallel [110]_{\text{cubic}}$,
 $[010]_{\text{rhombic}} \parallel [10]_{\text{cubic}}$. A table contains the results
obtained by calculating the position of the maxima
in the X-ray pictures. The maxima observed agree well
with the superlattice reflections which correspond
to the structure of Ni_2Cr , which was given by
G.Baer (Ref 10), and to the ratio of alloys shown
by a diagram. The broadening of the superlattice
reflections permits a rough estimation of the dimensions
of such domains as have a superstructure: For the
two investigated alloys an order of magnitude of 50 Å
was obtained (after tempering). On the X-ray
pictures of the quenched samples of both alloys

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On the Atomic Structure of the Solid Solutions of
Chromium in Nickel

SGV/26-122-5-16/56

a certain intensification of the background or very washed-out maxima were observed at those places where, after tempering, weak washed-out superstructure maxima occur. The results obtained make it possible to draw the following conclusions: In the investigated Ni-Cr-alloys of 28 and 35 gram-atomic percentage of Cr, sub-microscopic domains with an ordered rhombic Ni_2Cr -structure are formed during tempering, which has several possible orientations with respect to the original solid solution. After quenching, which was carried out beginning from a high temperature (of more than 800°), there is only one near order (of the type of Ni_2Cr) in the arrangement of the atoms of the two sorts. Thus, the production of the K-state in the Ni-Cr-alloys is to be correlated with the formation of submicro-inhomogeneities in them as well as with the occurrence of an order of the type Pt_2Ko in the reciprocal arrangement of atoms. There are 4

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On the Atomic Structure of the Solid Solutions of
Chromium in Nickel

SGV/zo-122-5-16/56

figures, 1 table, and 17 references, 6 of which are
Soviet.

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nauchno-issledovatel'skogo instituta chernoy metallurgii
(Institute of Metallography and Metal Physics of the Central
Scientific Research Institute for Ferrous Metallurgy)

PRESENTED: May 25, 1959, by G.V.Kurdyumov, Academician

SUBMITTED: May 17, 1959

Card 4/4

"APPROVED FOR RELEASE: 08/31/2001

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~~action: this result is analogous to the relationship between elastic~~

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ACCESSION NR: AP4034035

S/0020/64/155/006/1310/1313

AUTHOR: Tyapkin, Yu. D.; Yamaleyev, K. M.

TITLE: Crystal lattice distortions in the initial stage of the ordering process of Co Pt alloy

SOURCE: AN SSSR. Doklady*, v. 155, no. 6, 1964, 1310-1313 and top half of insert facing p. 1312

TOPIC TAGS: alloy ordering process, Co Pt crystal lattice, magnetic alloy, alloy aging, X-ray diffraction, crystallography, alloy, crystal lattice distortion

ABSTRACT: The Co-Pt alloys of a stoichiometric composition have very high coercive force and high magnetic energy. The changes of their crystalline structure during the ordering process have not as yet been adequately investigated. The authors studied a Co Pt alloy with 48.57 at m% Co by X-ray diffraction and by the method (Kristallografiya 9, #2, 213 1964) involving the use of single crystals of microscopic dimensions (20 to 100 microns). The single crystals were quenched from 1000 to 1100 C. The ordering process was investigated at 450 and 600 C. The crystalline structure were identified from the X-ray patterns. The

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